12. Schematic Diagrams

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VCR Main PCB

12-6 Power Drive - 12-8

12-7 System Control/Servo - 12-9

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Note

For schematic Diagram
- Resistors are in ohms, 1/8W unless otherwise noted.

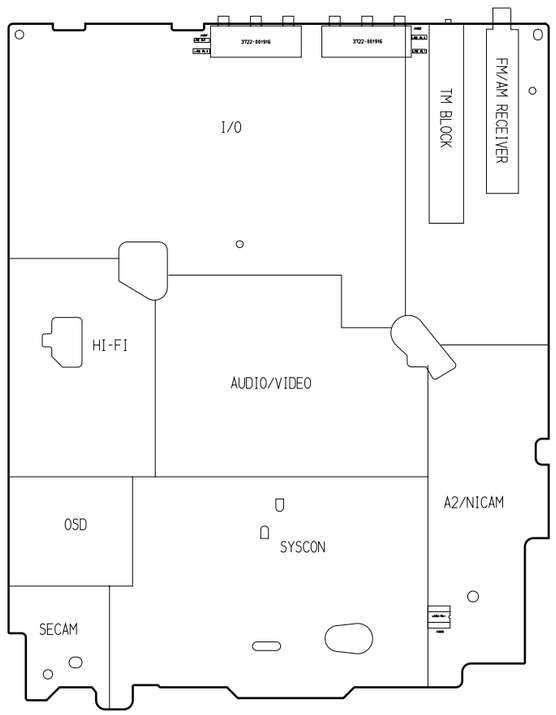
Special note :
Most semiconductor devices are electrostatically sensitive and therefore require the special handling techniques described under the “electrostatically sensitive (ES) devices” section of this service manual.

Note :
Do not use the part number shown on this drawing for ordering. The correct part number is shown in the parts list (may be slightly different or amended since this drawing was prepared).

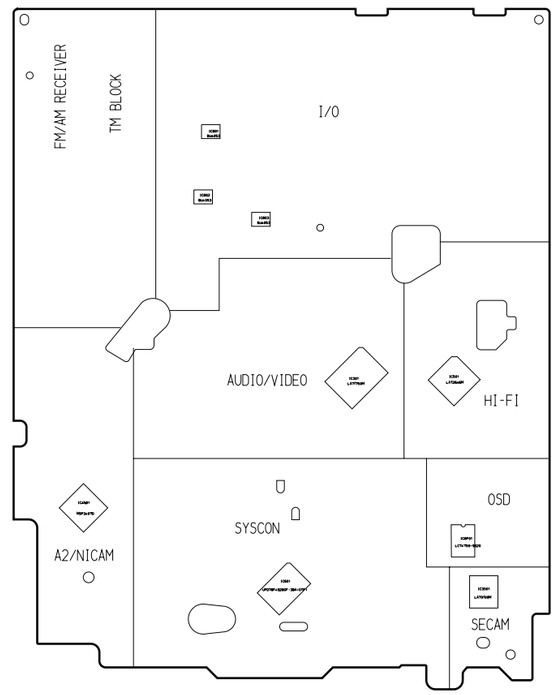
Important safety notices :
Components identified with the mark ⚠ have the special characteristics for safety. When replacing any of these components.
Use only the same type.

◆ Block Identification of Main PCB

VCR MAIN PCB

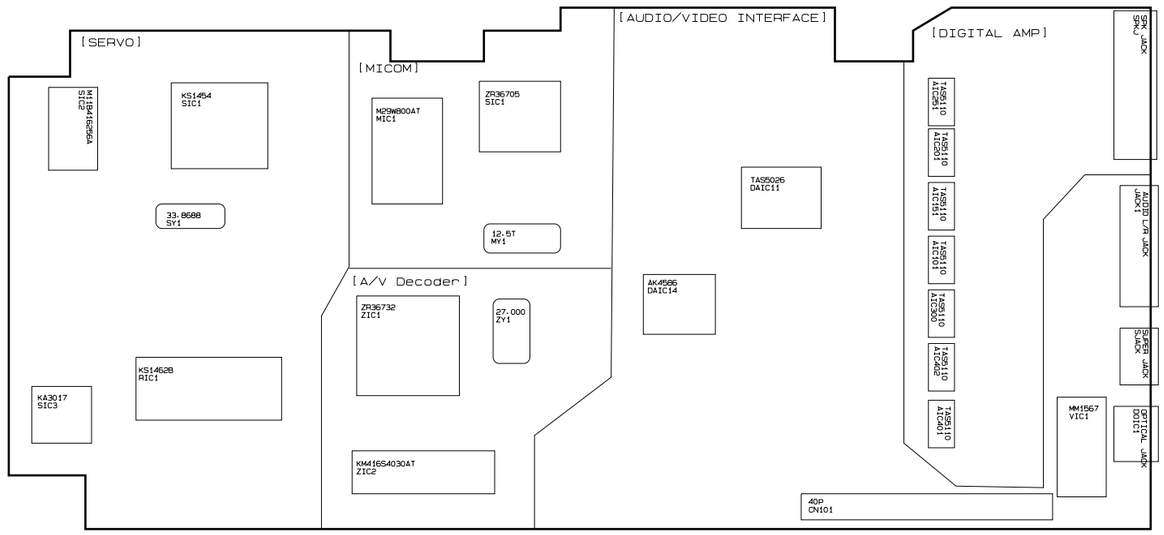


<Component Side>



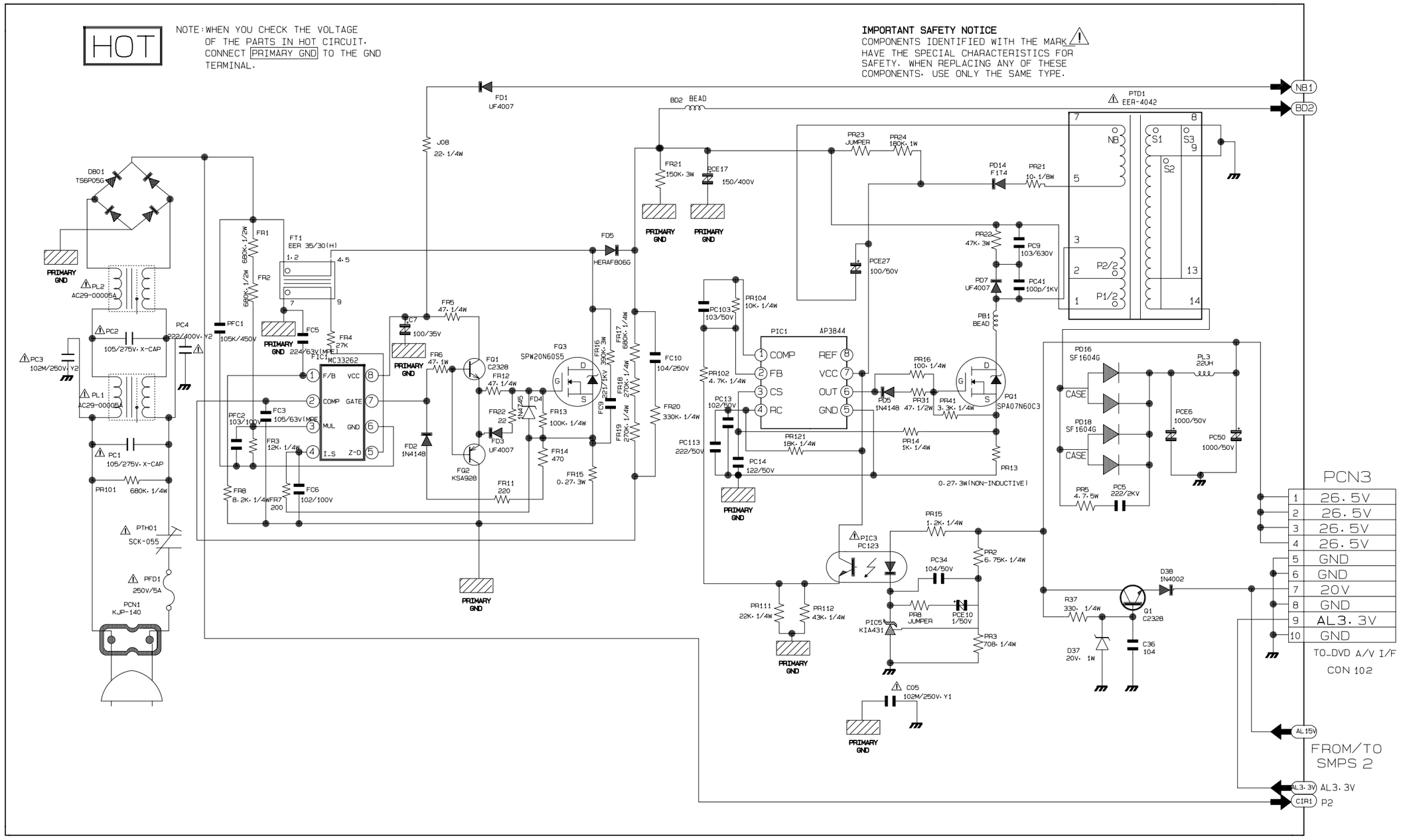
<Conductor Side>

DVD MAIN PCB

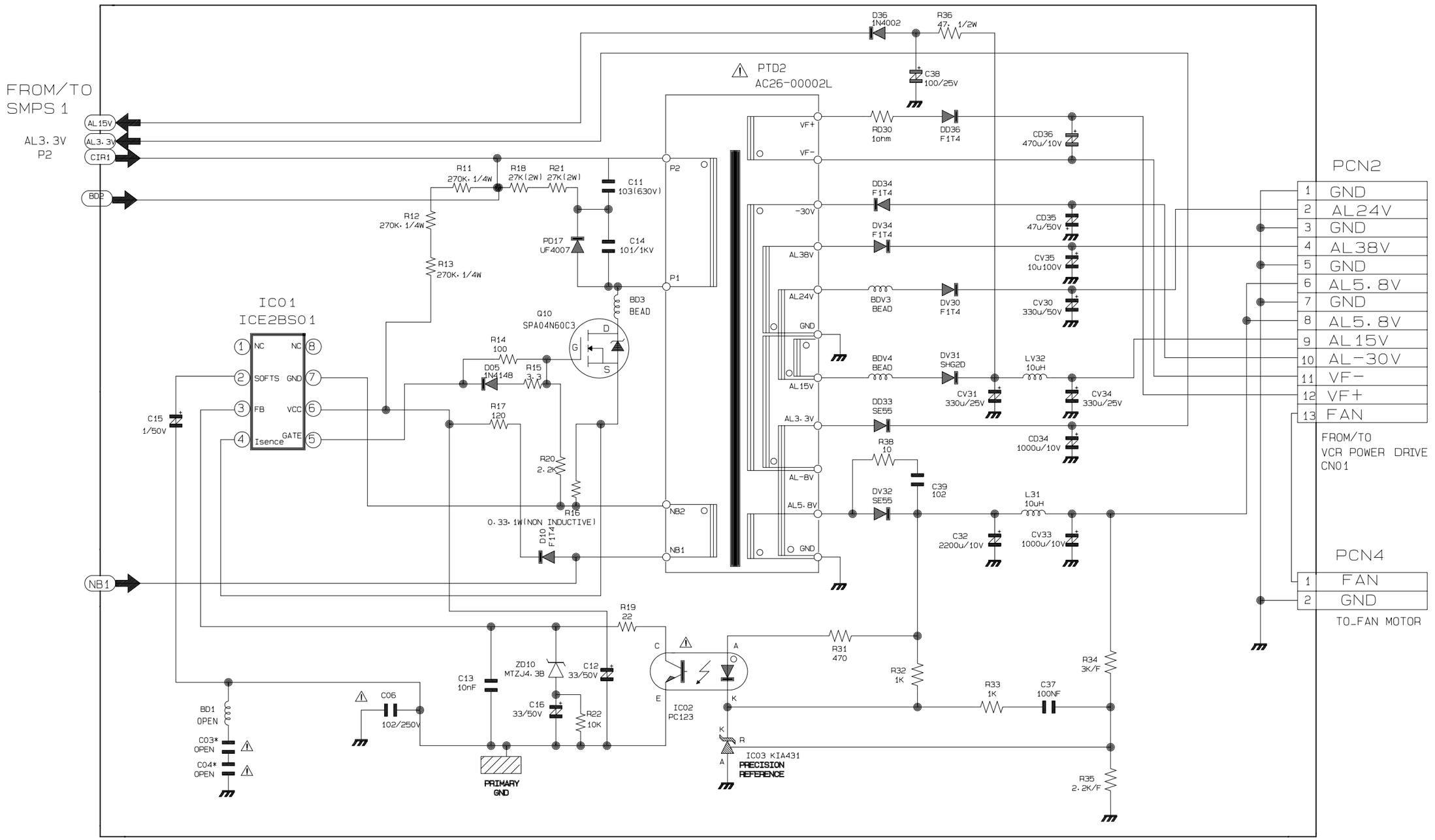


<Component Side>

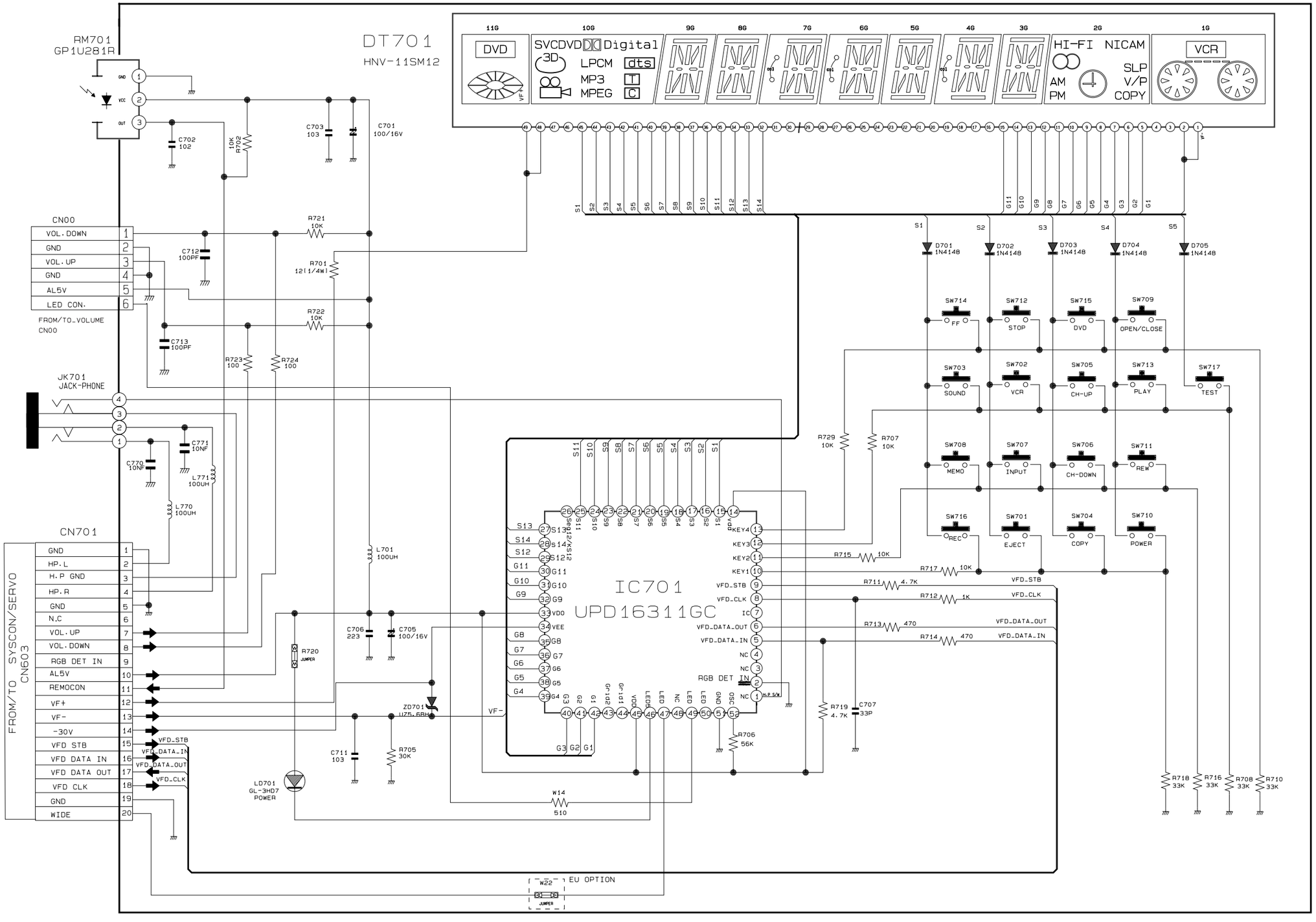
12-1 S.M.P.S.-1


HOT
NOTE: WHEN YOU CHECK THE VOLTAGE OF THE PARTS IN HOT CIRCUIT. CONNECT PRIMARY GND TO THE GND TERMINAL.
IMPORTANT SAFETY NOTICE
COMPONENTS IDENTIFIED WITH THE MARK ⚠ HAVE THE SPECIAL CHARACTERISTICS FOR SAFETY. WHEN REPLACING ANY OF THESE COMPONENTS. USE ONLY THE SAME TYPE.
NB1
BD2
PTD1 EER-4042
FD1 UF4007
BD2 BEAD
J08 22. 1/4W
DB01 TS6P05G
PRIMARY GND
PL2 AC29-00005A
PC2 105/275V. X-CAP
PC3 102M/250V. Y2
PC4 222/400V. Y2
PL1 AC29-00005A
PC1 105/275V. X-CAP
PR101 680K. 1/4W
PTH01 SCK-055
PFD1 250V/5A
PCN1 KJP-140
FR1 680K. 1/2W
FR2 680K. 1/2W
FT1 EER 35/30(H)
PFC1 105K/450V
FC5 224/63V(MPE)
FR4 27K
FC1 MC33262
F/B VCC COMP GATE MUL GND I_S Z-D
PFC2 103/100V
FC3 105/63V(MPE)
FR3 12K. 1/4W
FR8 8.2K. 1/4W
FR7 200
FC6 102/100V
FR5 47. 1/4W
FC7 100/35V
FR6 47. 1W
FQ1 C2328
FR12 47. 1/4W
FD4 M4745
FR22 22
FD3 UF4007
FD2 1N4148
FQ2 KSA928
FR11 220
FR13 100K. 1/4W
FR14 470
FR15 0. 27. 3W
FD5 HERAF806G
FR21 150K. 3W
PCE17 150/400V
FQ3 SPW20N60S5
FR16 390K. 3W
FR17 680K. 1/4W
FR18 27K. 1/4W
FC9 221/1KV
FR19 270. 1/4W
FC10 104/250V
FR20 330K. 1/4W
PR104 10K. 1/4W
PC103 103/50V
PR102 4. 7K. 1/4W
PC13 102/50V
PC113 222/50V
PC14 122/50V
PIC1 AP3844
COMP FB CS RC REF VCC OUT GND
PR23 JUMPER
PR24 180K. 1W
PD14 F1T4
PR21 10. 1/8W
PCE27 100/50V
PR22 47K. 3W
PC9 103/630V
PD7 UF4007
PC41 100P/1KV
PB1 BEAD
PR16 100. 1/4W
PD5 1N4148
PR31 47. 1/2W
PR41 3. 3K. 1/4W
PQ1 SPA07N60C3
PR121 18K. 1/4W
PR14 1K. 1/4W
PR13 0. 27. 3W(NON-INDUCTIVE)
PD16 SF1604G
PL3 22UH
PD18 SF1604G
CASE
PCE6 1000/50V
PC50 1000/50V
PR5 4. 7. 5W
PC5 222/2KV
PCN3
1 26. 5V
2 26. 5V
3 26. 5V
4 26. 5V
5 GND
6 GND
7 20V
8 GND
9 AL3. 3V
10 GND
TO_DVD A/V I/F CON 102
PR15 1. 2K. 1/4W
PIC3 PC123
PR2 6. 75K. 1/4W
PC34 104/50V
PR111 22K. 1/4W
PR112 43K. 1/4W
PIC5 KIA431
PR8 JUMPER
PCE10 1/50V
PR3 708. 1/4W
C05 102M/250V. Y1
D38 1N4002
R37 330. 1/4W
Q1 C2328
D37 20V. 1W
C36 104
AL15V
FROM/TO SMPS 2
AL3. 3V
CIR1
AL3. 3V
P2

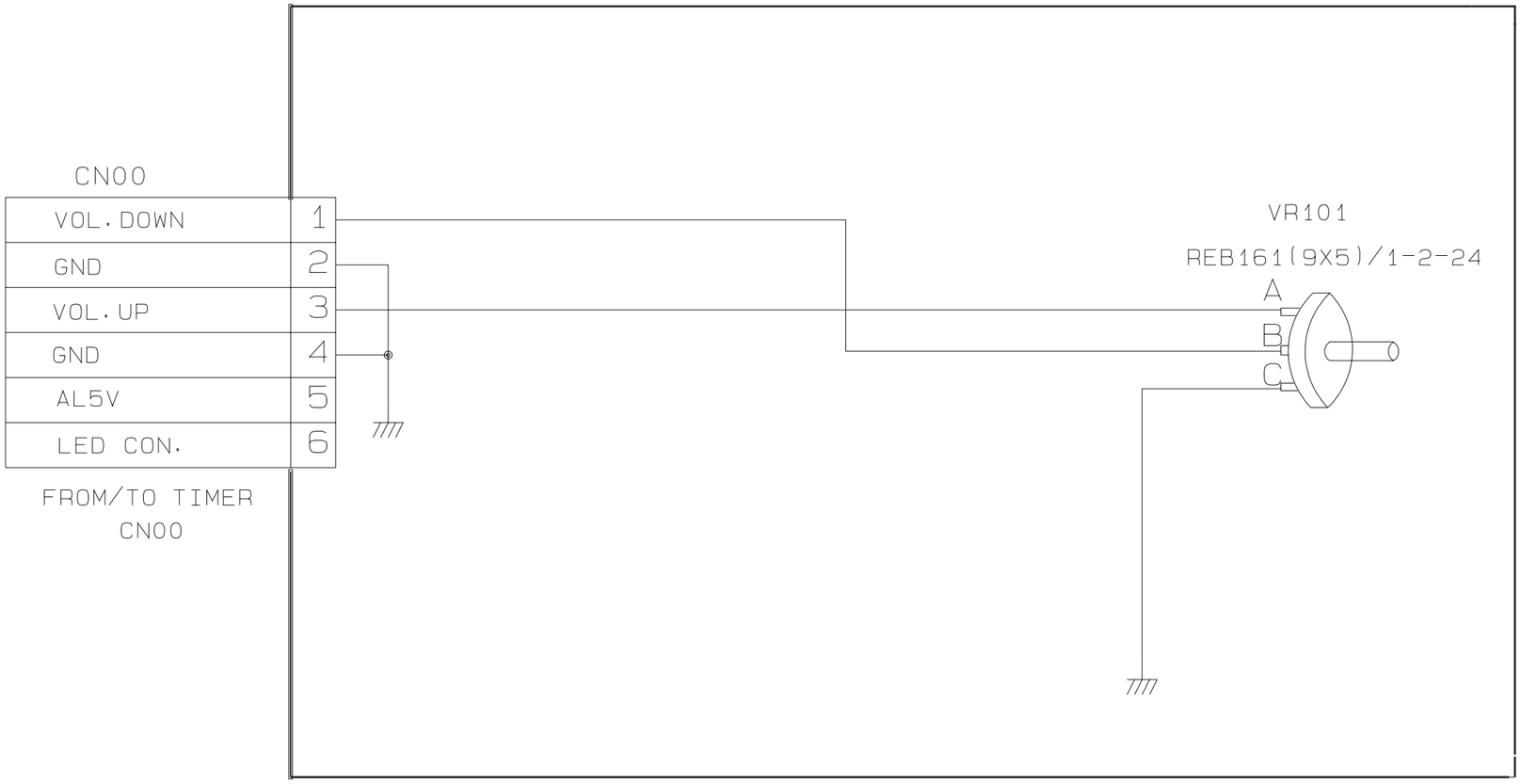
12-2 S.M.P.S.-2


FROM/TO
SMPS 1
AL3.3V
P2
AL15V
AL3.3V
CIR1
BD2
NB1
R11
270K. 1/4W
R18
27K(2W)
R21
27K(2W)
C11
103(630V)
R12
270K. 1/4W
R13
270K. 1/4W
PD17
UF4007
C14
101/1KV
P2
P1
BD3
BEAD
Q10
SPA04N60C3
D
G
S
IC01
ICE2BS01
NC
SOFTS
FB
Isence
GND
VCC
GATE
C15
1/50V
R14
100
D05
1N4148
R15
3.3
R17
120
R20
2.2K
R16
0.33.1W(NON INDUCTIVE)
D10
F1T4
NB2
NB1
R19
22
C13
10nF
ZD10
MTZJ4.3B
C12
33/50V
C16
33/50V
R22
10K
C06
102/250V
BD1
OPEN
C03*
OPEN
C04*
OPEN
PRIMARY
GND
C
E
A
K
IC02
PC123
R31
470
R32
1K
R33
1K
C37
100NF
R34
3K/F
R35
2.2K/F
K
R
A
IC03 KIA431
PRECISION
REFERENCE
PTD2
AC26-00002L
D36
1N4002
R36
47. 1/2W
C38
100/25V
VF+
VF-
RD30
1ohm
DD36
F1T4
CD36
470u/10V
-30V
DD34
F1T4
CD35
47u/50V
AL38V
DV34
F1T4
CV35
10u100V
AL24V
BDV3
BEAD
DV30
F1T4
CV30
330u/50V
GND
BDV4
BEAD
DV31
SHG2D
LV32
10uH
AL15V
CV31
330u/25V
CV34
330u/25V
AL3.3V
DD33
SE55
CD34
1000u/10V
R38
10
AL-8V
C39
102
DV32
SE55
L31
10uH
AL5.8V
C32
2200u/10V
CV33
1000u/10V
GND
PCN2
1 GND
2 AL24V
3 GND
4 AL38V
5 GND
6 AL5.8V
7 GND
8 AL5.8V
9 AL15V
10 AL-30V
11 VF-
12 VF+
13 FAN
FROM/TO
VCR POWER DRIVE
CN01
PCN4
1 FAN
2 GND
TO_FAN MOTOR

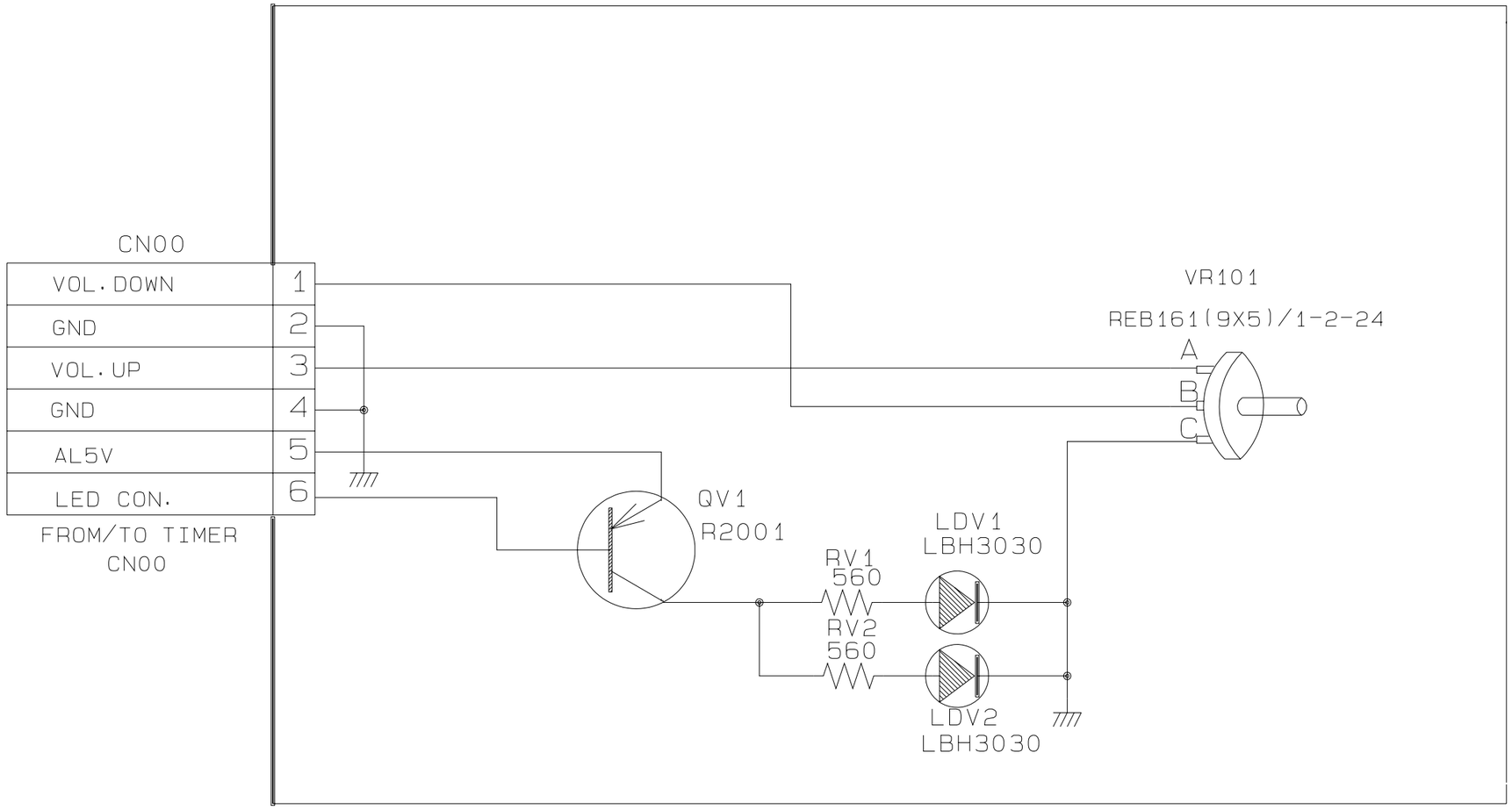
12-3 Function-Timer



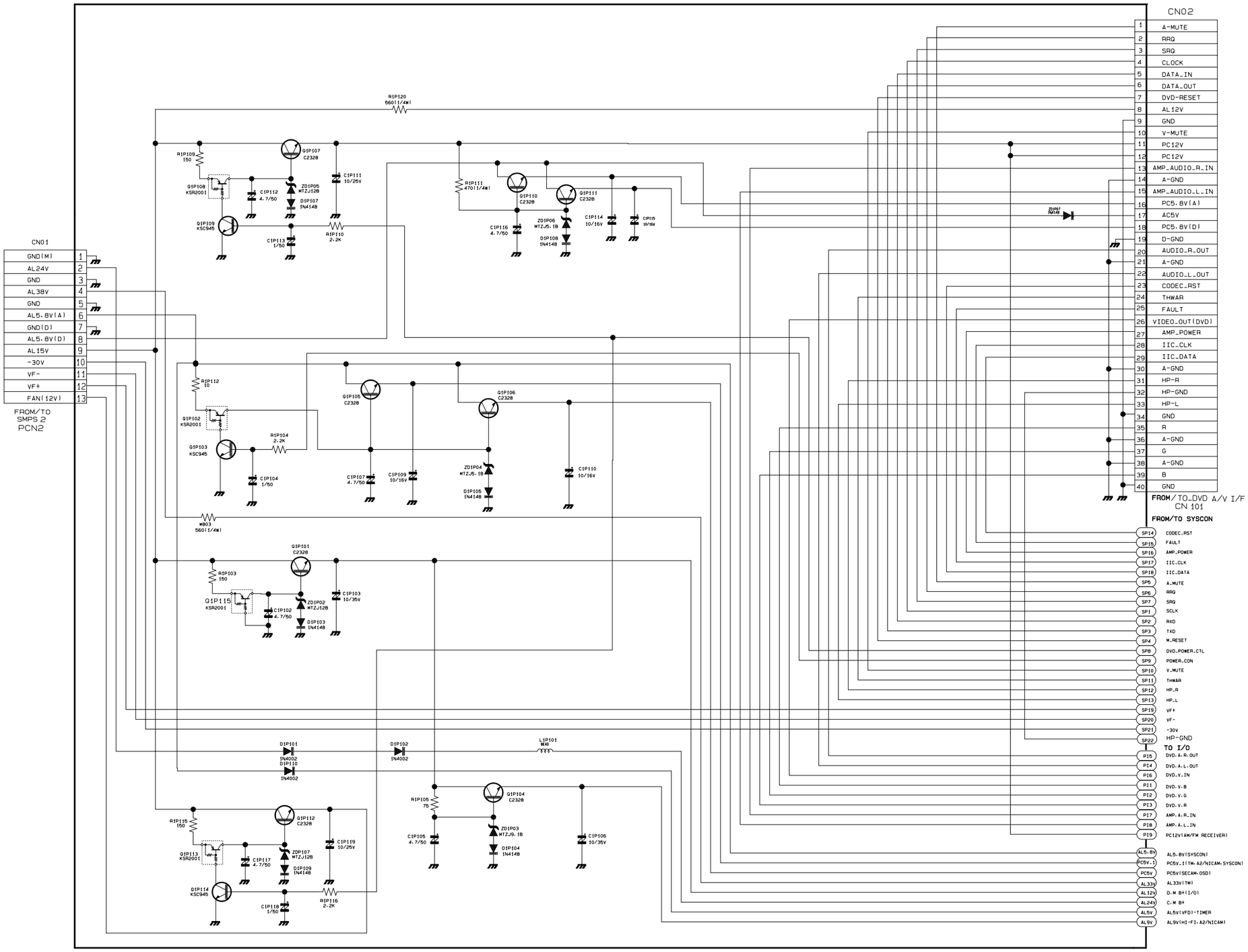
12-4 Volume (Europe)



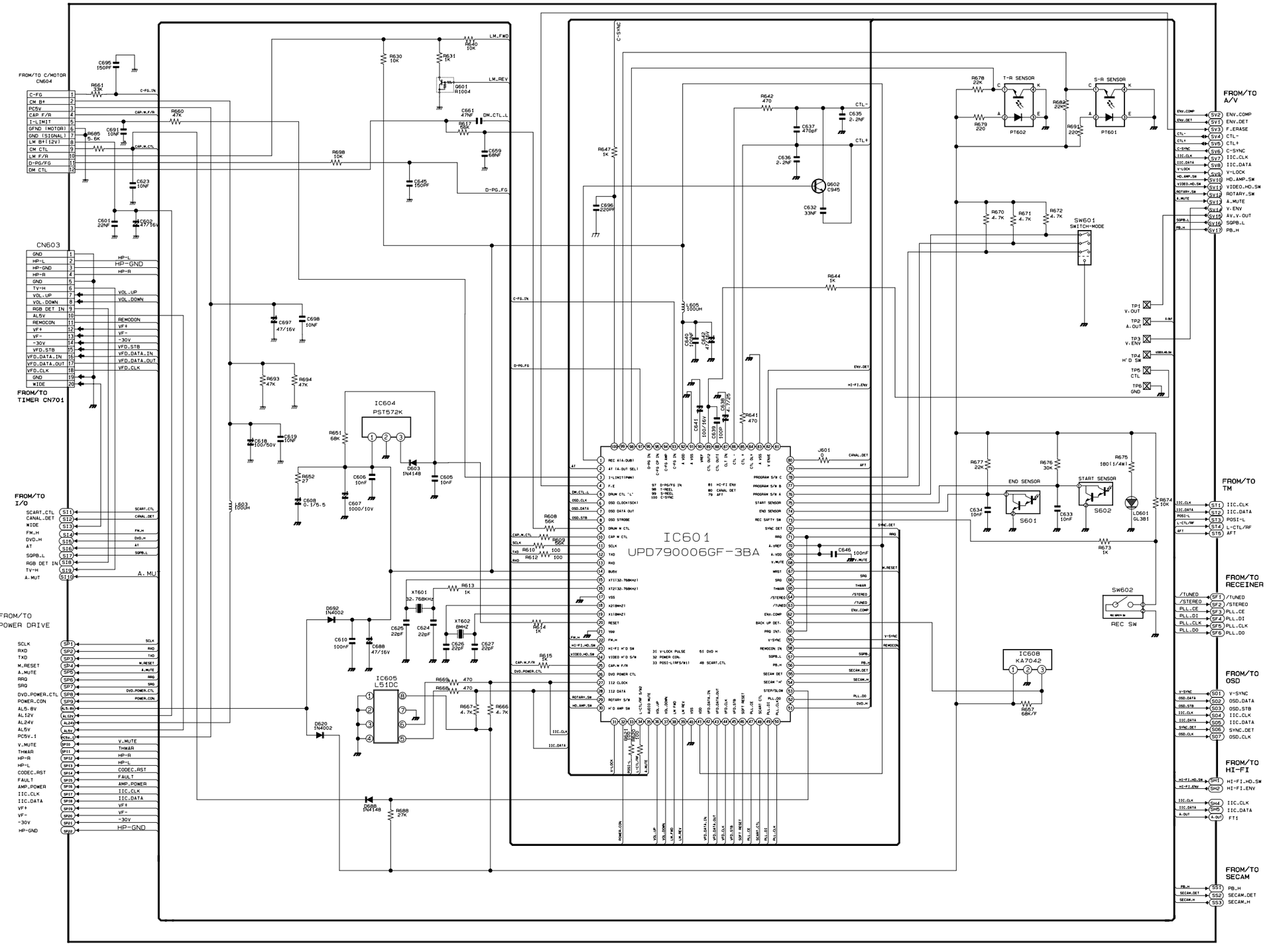
12-5 Volume (Non Europe)



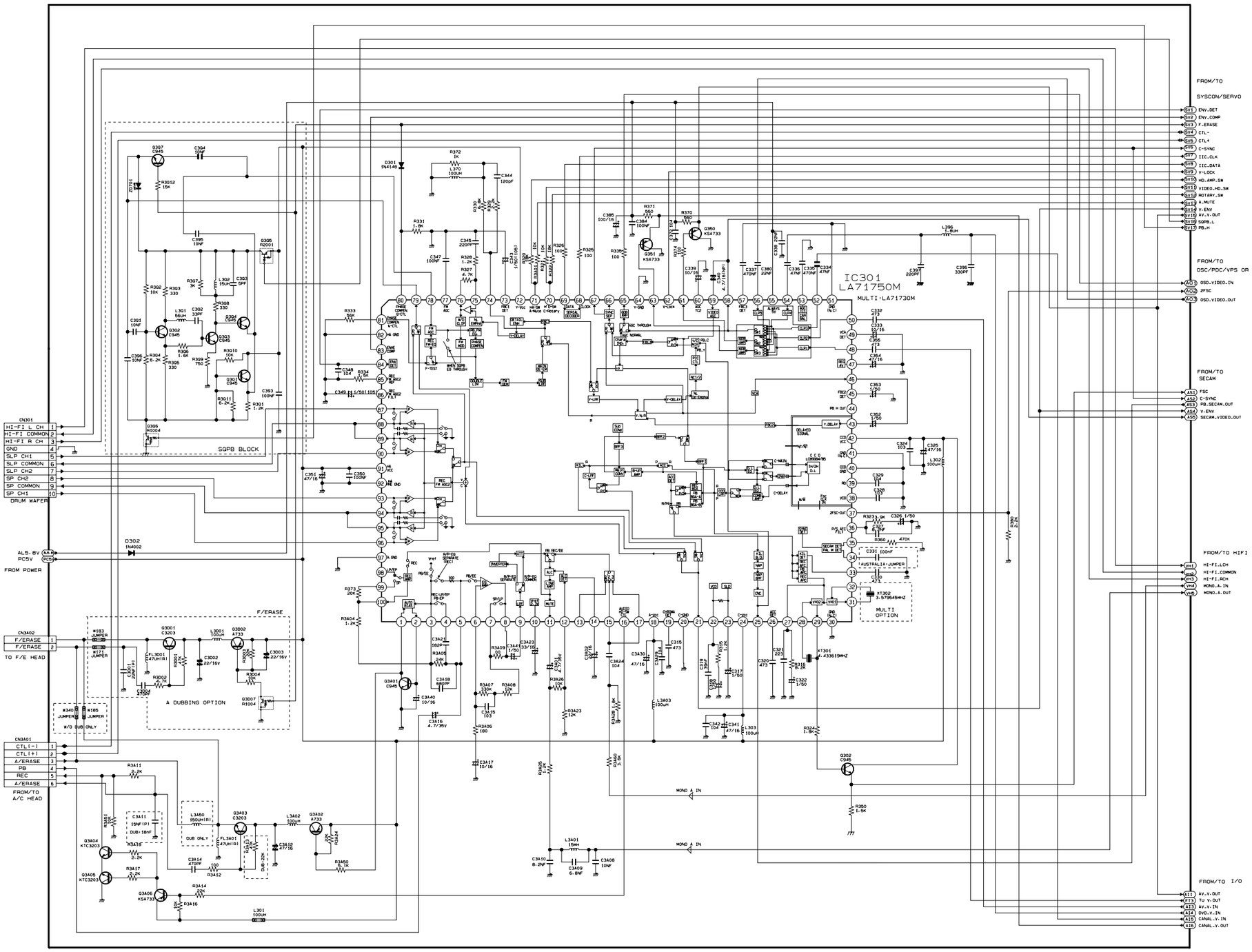
12-6 Power Drive



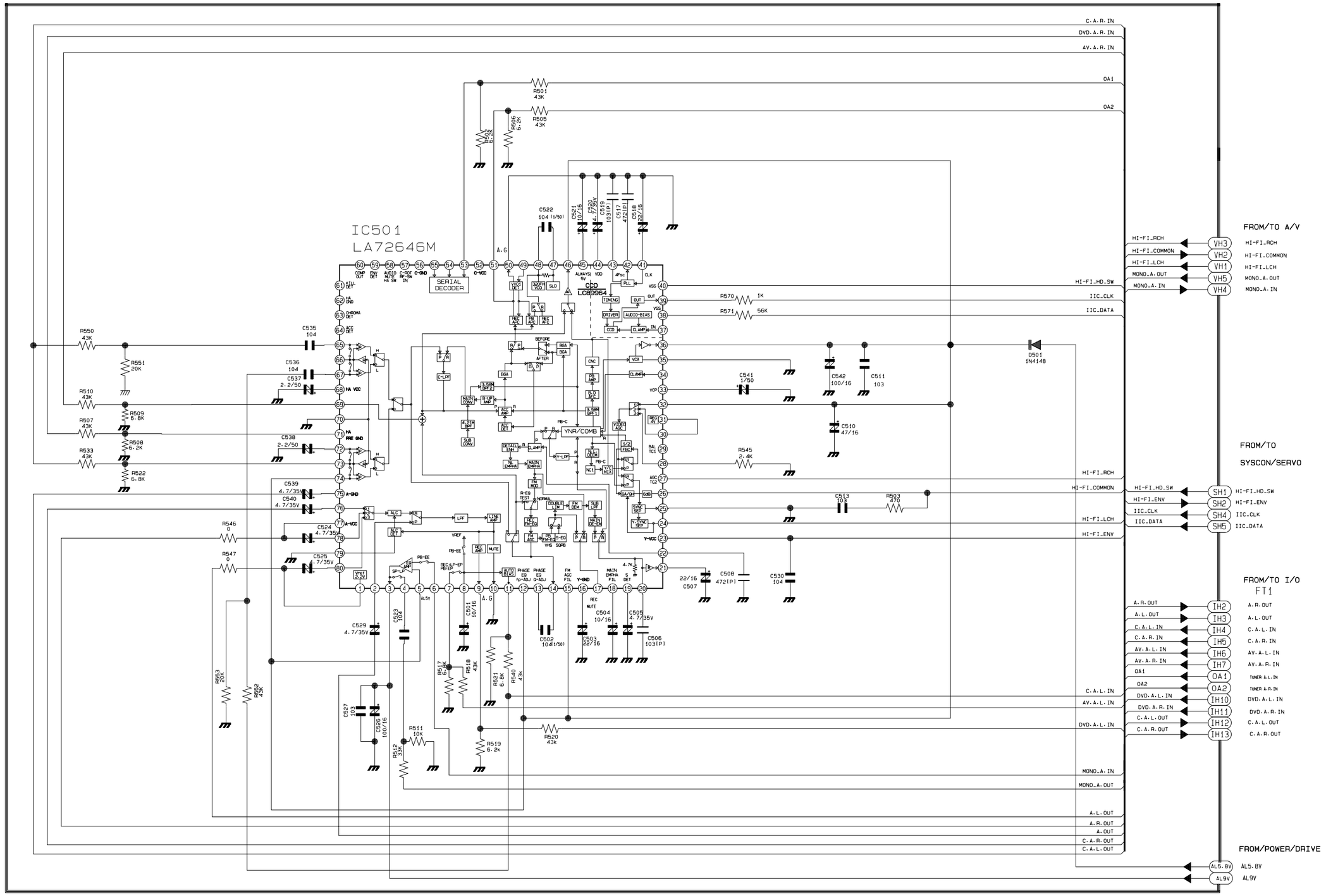
12-7 System Control/Servo



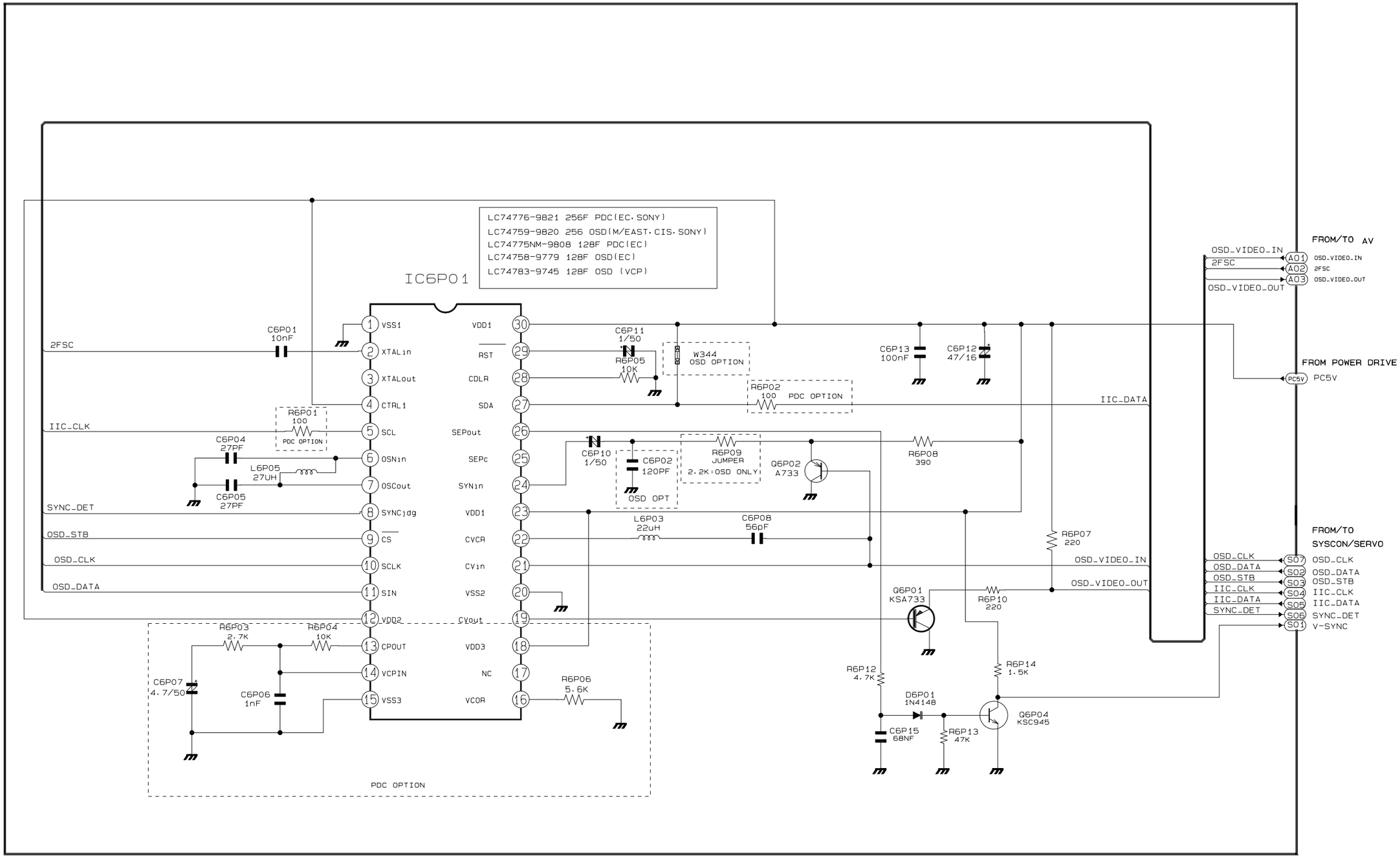
12-8 A/V


IC301
LA71750M
MULTI:LA71730M
FROM/TO
SYSCON/SERVO
FROM/TO
OSC/PDC/VPS OR OSD
FROM/TO
SECAM
FROM/TO HIFI
FROM/TO I/O
FROM/TO
A/C HEAD
FROM POWER
TO F/E HEAD
DRUM WAFER
SQPB BLOCK
F/ERASE
A DUBBING OPTION
W/O DUB ONLY
MULTI
OPTION
MONO A IN
MONO A IN
CN301
HI-FI L CH
HI-FI COMMON
HI-FI R CH
GND
SLP CH1
SLP COMMON
SLP CH2
SP CH2
SP COMMON
SP CH1
CN3402
F/ERASE
F/ERASE
CN3401
CTL(-)
CTL(+)
A/ERASE
PB
REC
A/ERASE
ENV.DET
ENV.COMP
F.ERASE
CTL-
CTL+
C-SYNC
IIC.CLK
IIC.DATA
V-LOCK
HD.AMP.SW
VIDEO.HD.SW
ROTARY.SW
A.MUTE
V.ENV
AV.V.OUT
SQPB.L
PB.H
OSD.VIDEO.IN
2FSC
OSD.VIDEO.OUT
FSC
C-SYNC
PB.SECAM.OUT
V.ENV
SECAM.VIDEO.OUT
HI-FI.LCH
HI-FI.COMMON
HI-FI.RCH
MONO.A.IN
MONO.A.OUT
AV.V.OUT
TU V-OUT
AV.V.IN
DVD.V.IN
CANAL.V.IN
CANAL.V.OUT

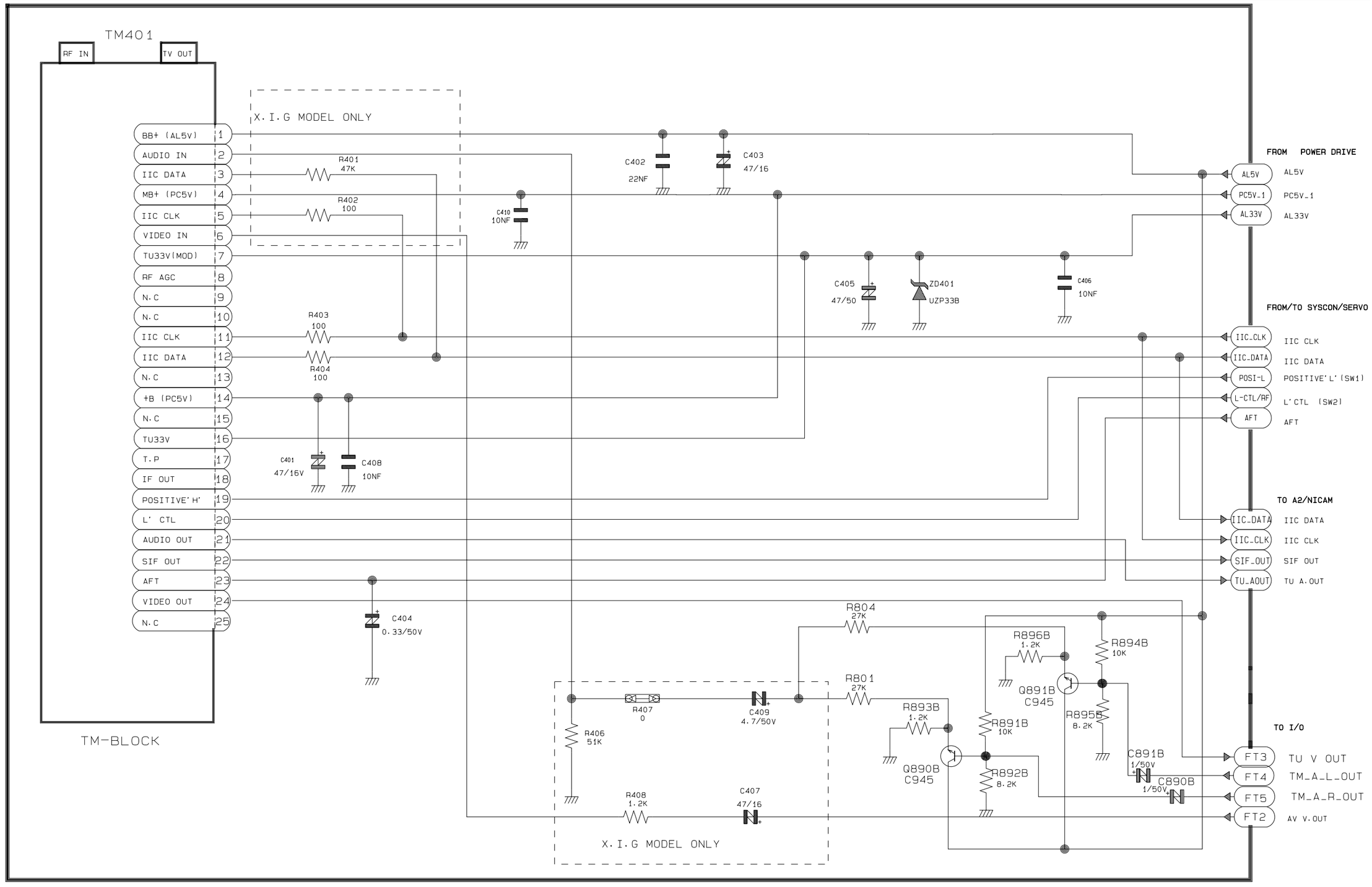
12-9 Hi-Fi


IC501
LA72646M
SERIAL DECODER
CCD LC89964
YNR/COMB
C.A.R.IN
DVD.A.R.IN
AV.A.R.IN
OA1
OA2
HI-FI_RCH
HI-FI_COMMON
HI-FI_LCH
MONO_A.OUT
MONO_A.IN
HI-FI_HD_SW
IIC_CLK
IIC_DATA
FROM/TO A/V
VH3
VH2
VH1
VH5
VH4
D501
1N414B
FROM/TO
SYSCON/SERVO
SH1
SH2
SH4
SH5
FROM/TO I/O
FT1
IH2
IH3
IH4
IH5
IH6
IH7
IH10
IH11
IH12
IH13
C.A.L.IN
C.A.R.IN
AV.A.L.IN
AV.A.R.IN
DVD.A.L.IN
DVD.A.R.IN
C.A.L.OUT
C.A.R.OUT
A.L.OUT
A.R.OUT
TUNER A.L.IN
TUNER A.R.IN
FROM/POWER/DRIVE
AL5.8V
AL9V

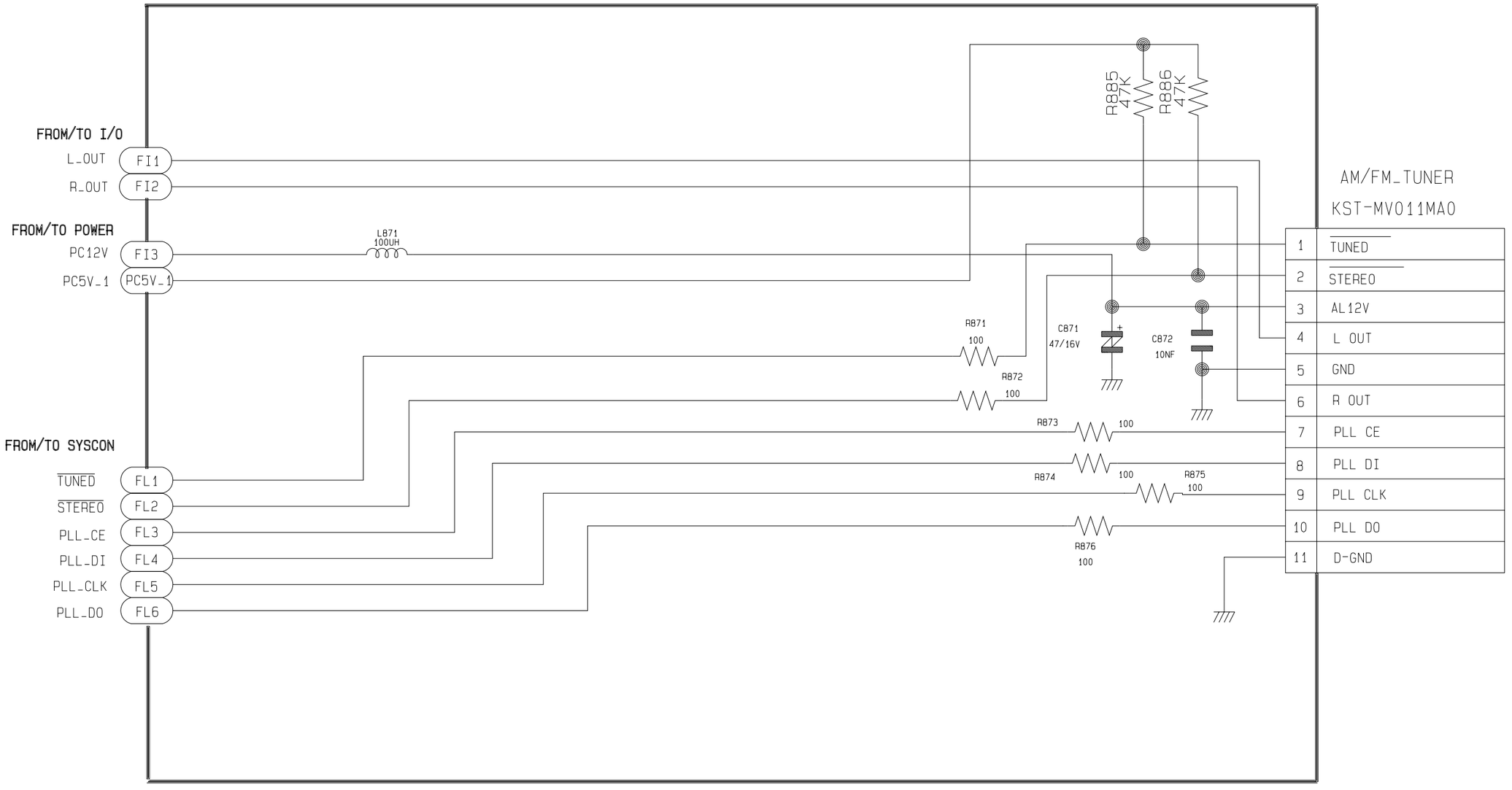
12-10 OSD/VPS/PDC



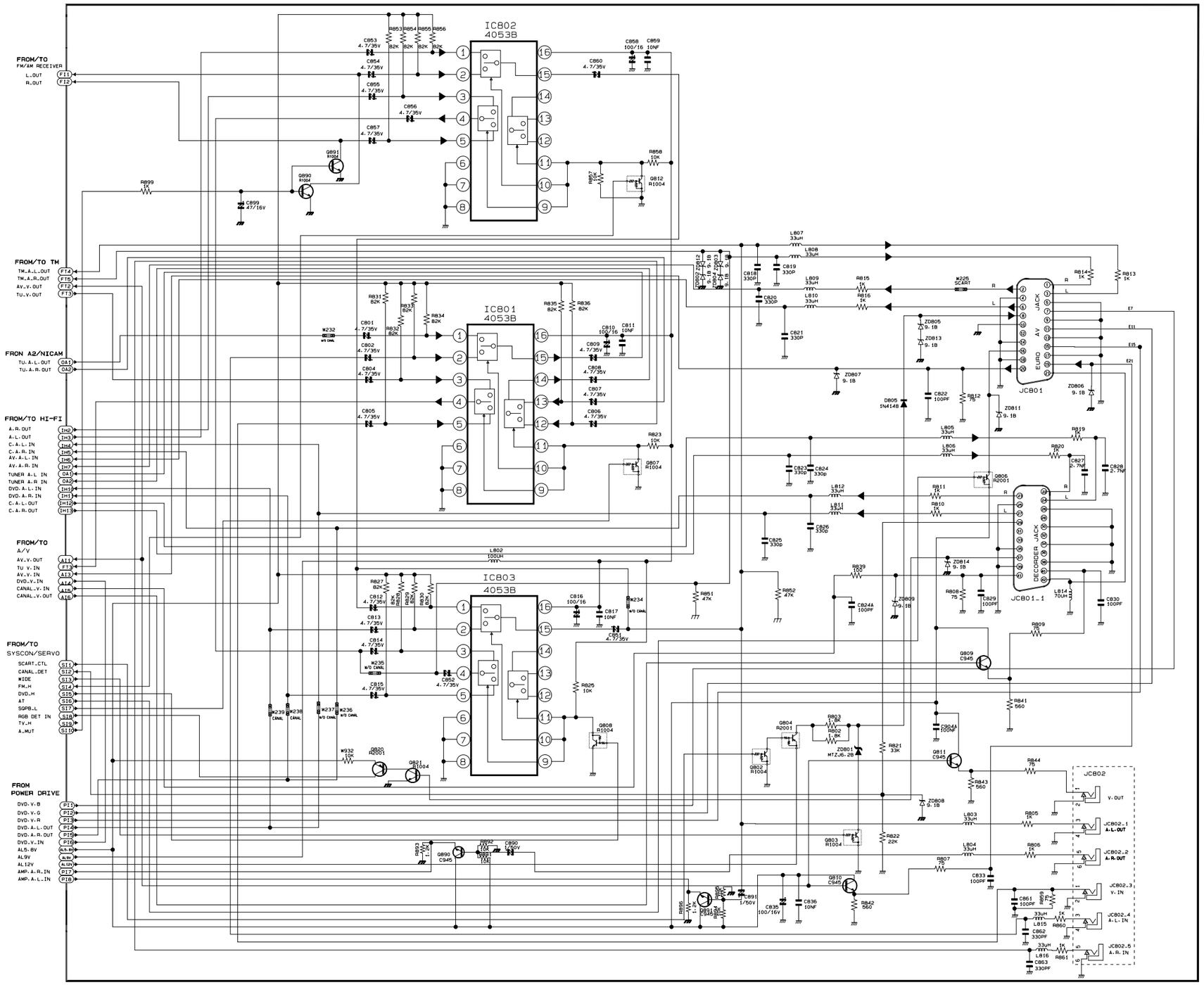
12-11 TM


TM401
RF IN
TV OUT
X.I.G MODEL ONLY
BB+ (AL5V) 1
AUDIO IN 2
IIC DATA 3
MB+ (PC5V) 4
IIC CLK 5
VIDEO IN 6
TU33V(MOD) 7
RF AGC 8
N.C 9
N.C 10
IIC CLK 11
IIC DATA 12
N.C 13
+B (PC5V) 14
N.C 15
TU33V 16
T.P 17
IF OUT 18
POSITIVE'H' 19
L' CTL 20
AUDIO OUT 21
SIF OUT 22
AFT 23
VIDEO OUT 24
N.C 25
R401 47K
R402 100
R403 100
R404 100
C401 47/16V
C408 10NF
C404 0.33/50V
C410 10NF
C402 22NF
C403 47/16
C405 47/50
ZD401 UZP33B
C406 10NF
R407 0
C409 4.7/50V
R406 51K
R408 1.2K
C407 47/16
X.I.G MODEL ONLY
R804 27K
R801 27K
R896B 1.2K
R894B 10K
Q891B C945
R893B 1.2K
R891B 10K
R895B 8.2K
Q890B C945
R892B 8.2K
C891B 1/50V
C890B 1/50V
TM-BLOCK
FROM POWER DRIVE
AL5V
PC5V_1
AL33V
FROM/TO SYSCON/SERVO
IIC_CLK
IIC_DATA
POSI-L
L-CTL/RF
AFT
IIC CLK
IIC DATA
POSITIVE'L'(SW1)
L'CTL (SW2)
AFT
TO A2/NICAM
IIC_DATA
IIC_CLK
SIF_OUT
TU_AOUT
IIC DATA
IIC CLK
SIF OUT
TU A.OUT
TO I/O
FT3
FT4
FT5
FT2
TU V OUT
TM_A_L_OUT
TM_A_R_OUT
AV V.OUT

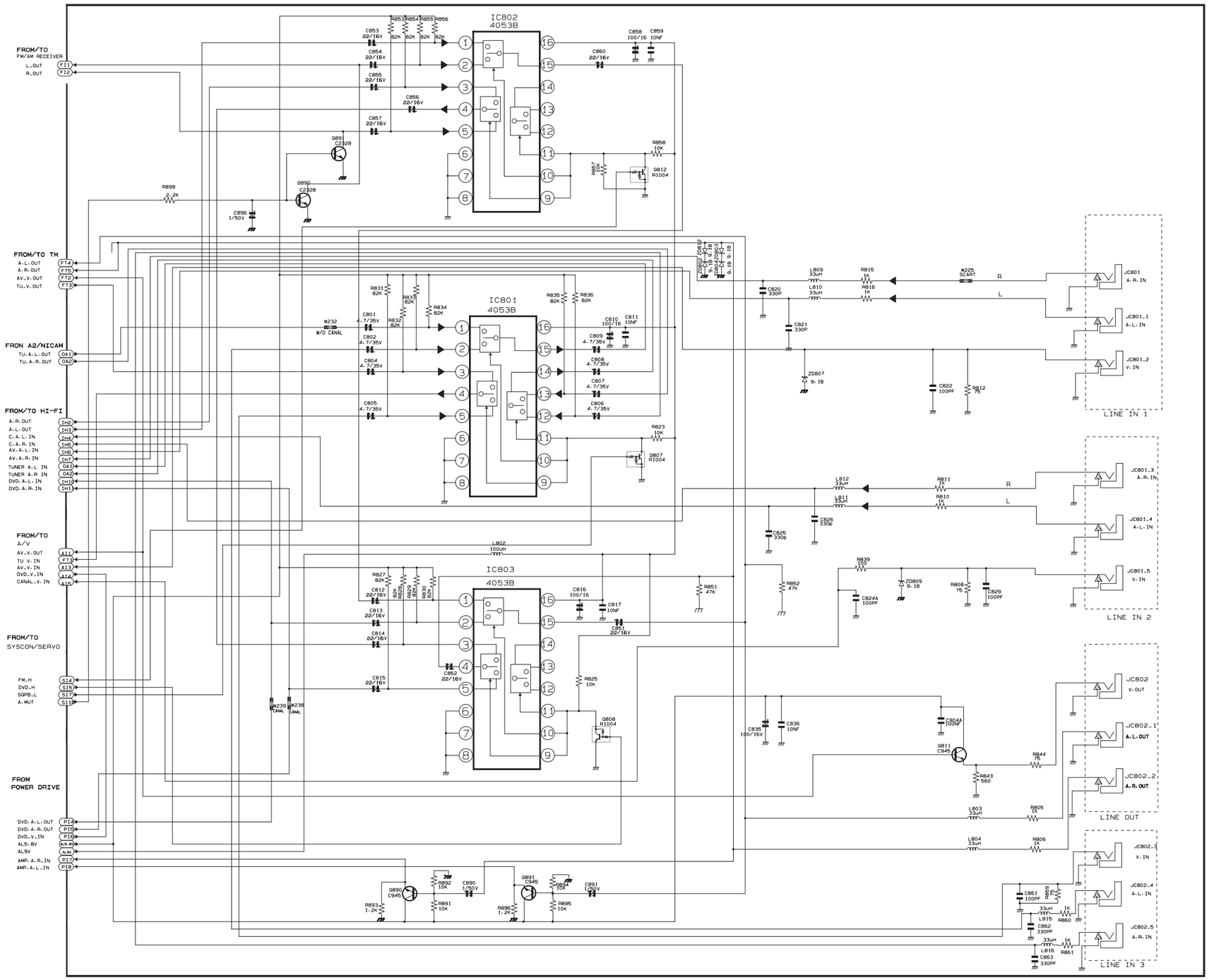
12-12 AM/FM Receiver



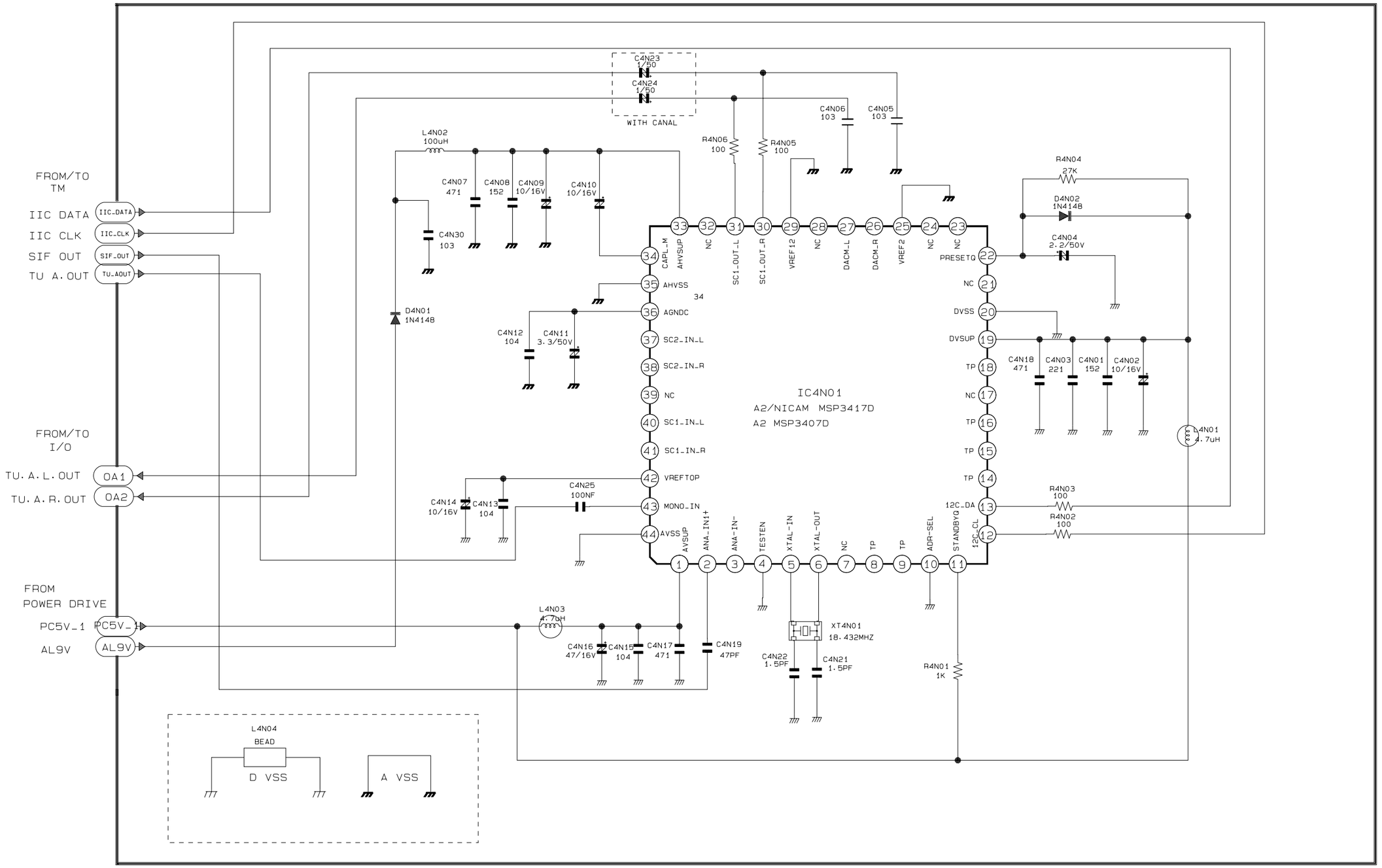
12-13 Input-Output (Europe)



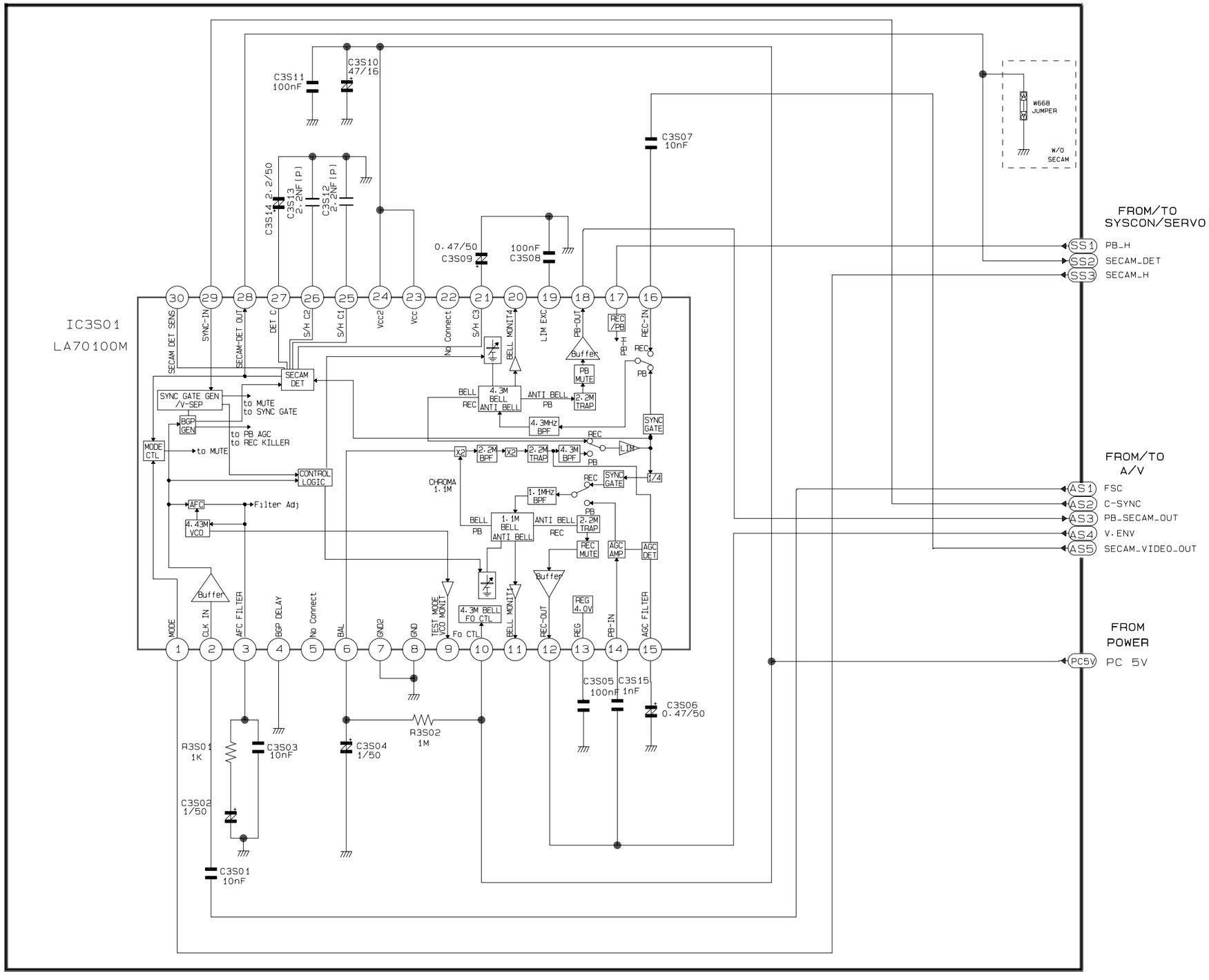
12-14 Input-Output (Non Europe)



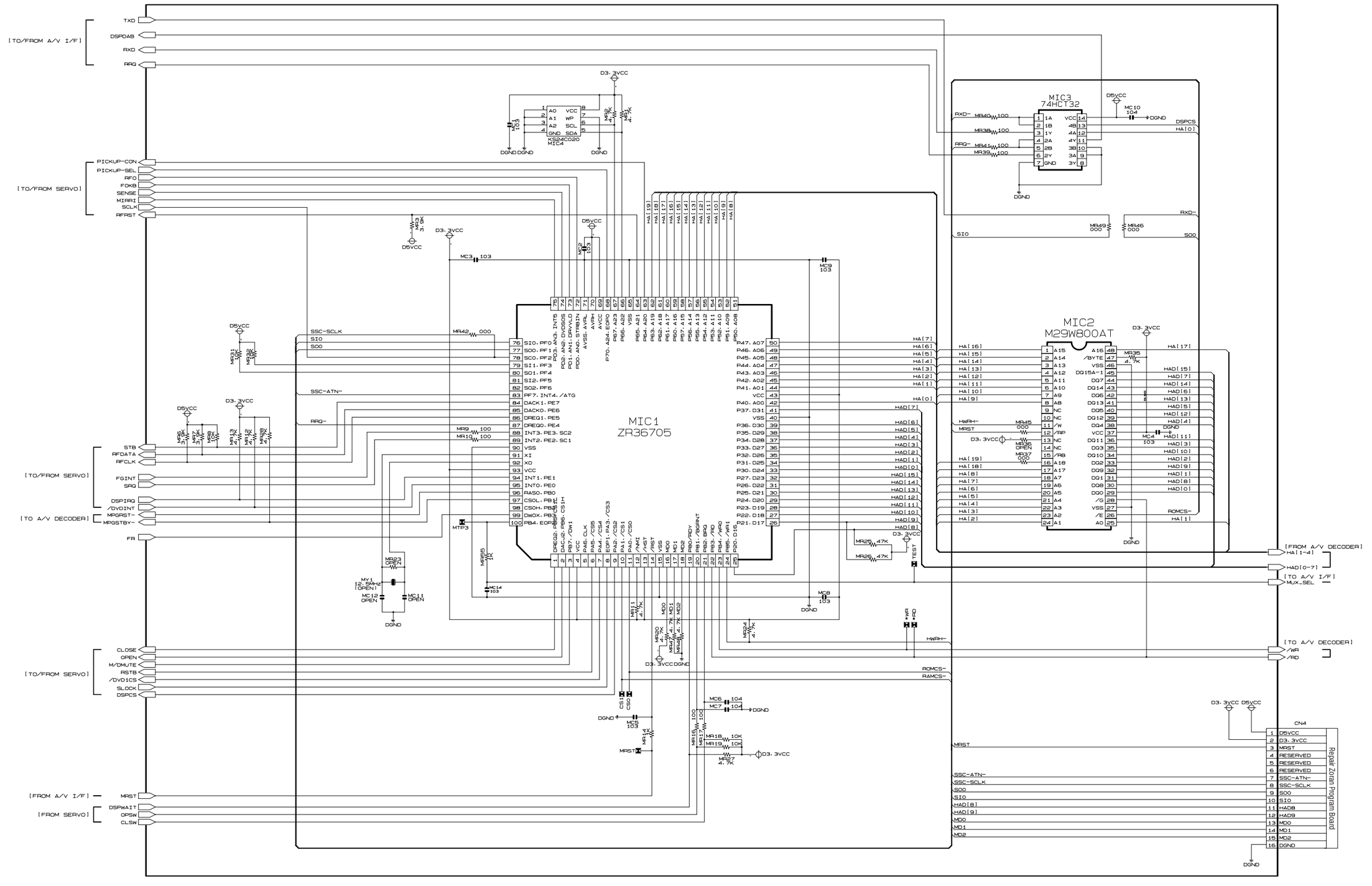
12-15 A2/NICAM



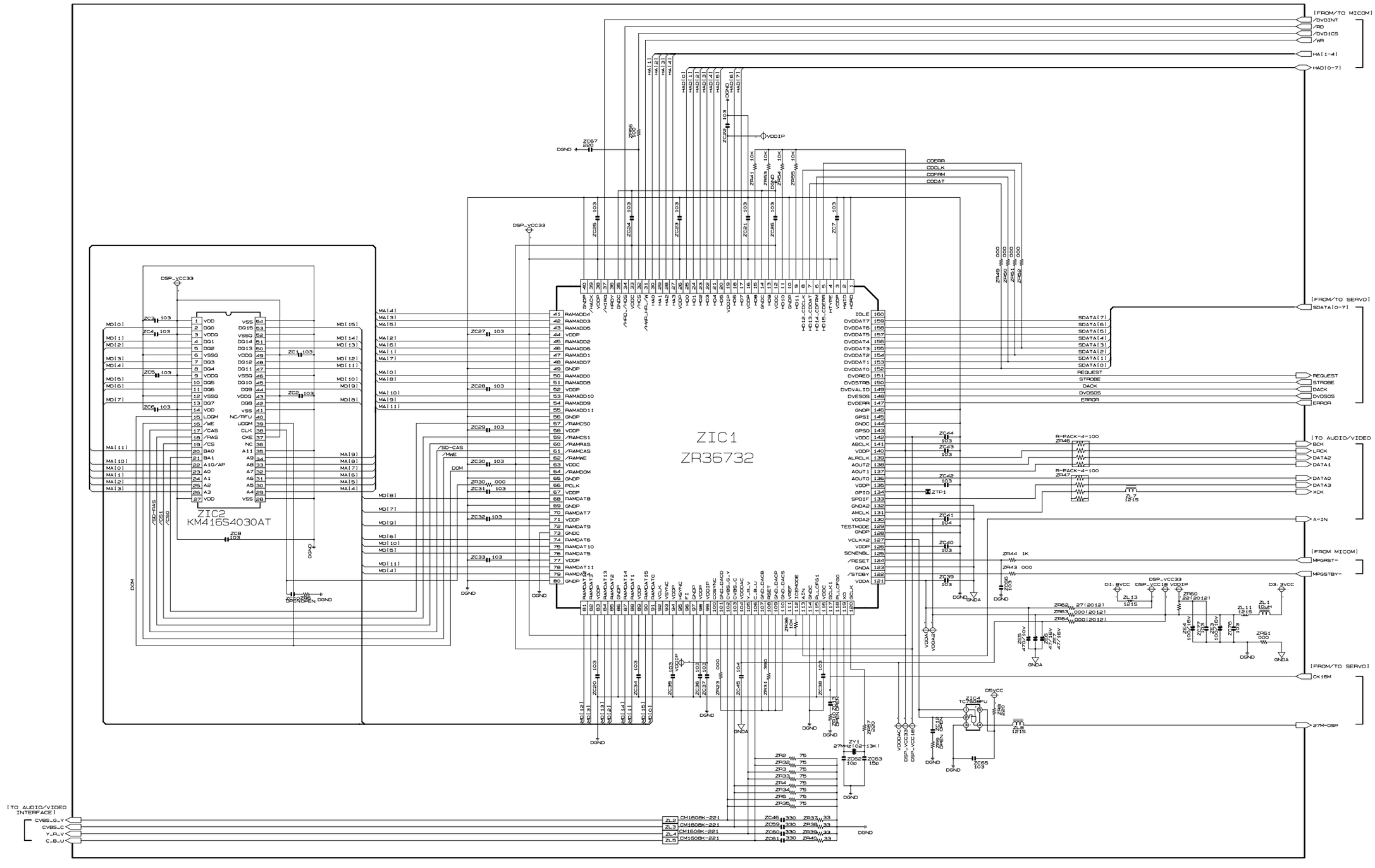
12-16 SECAM (Europe Only)



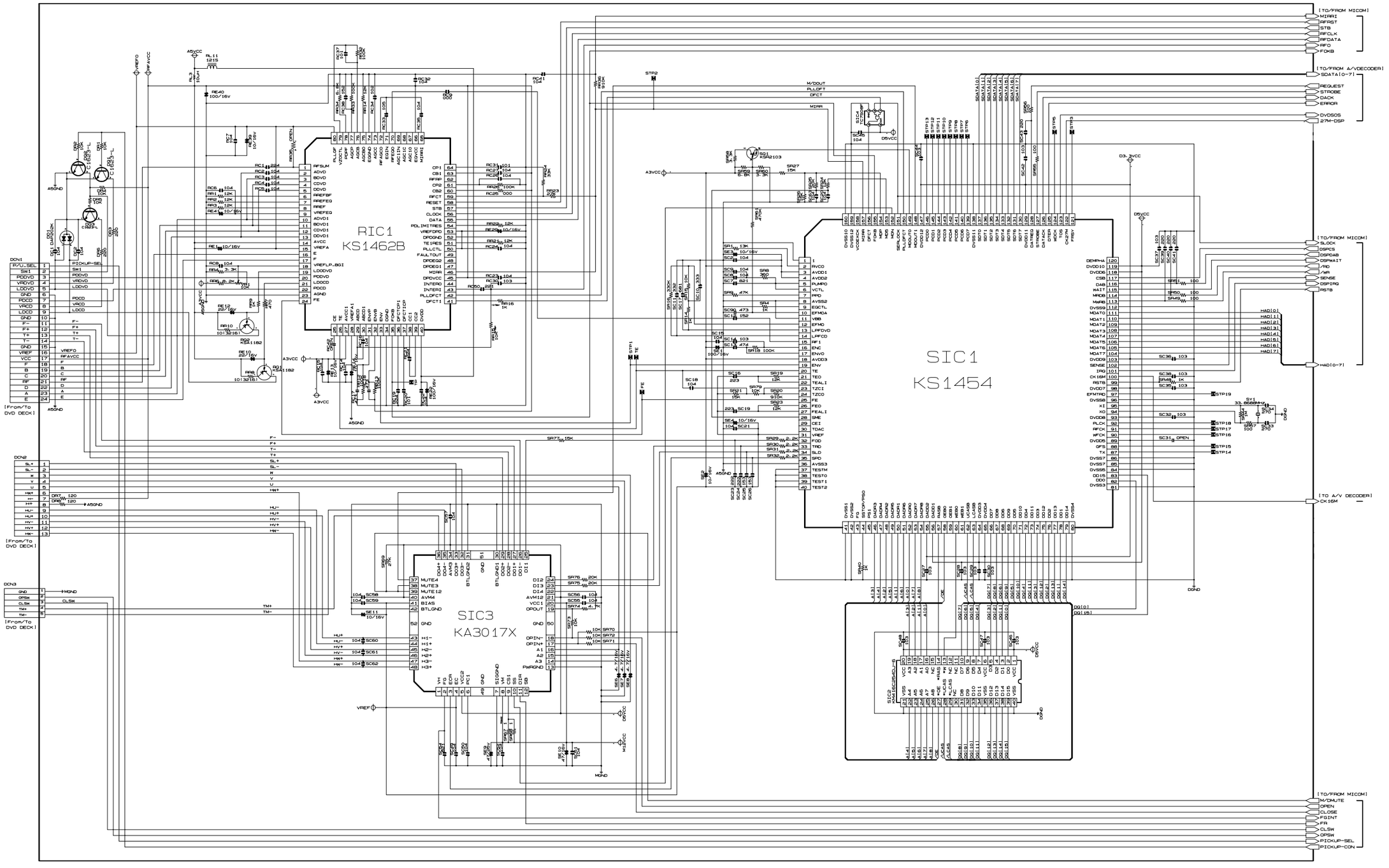
12-17 DVD Micom



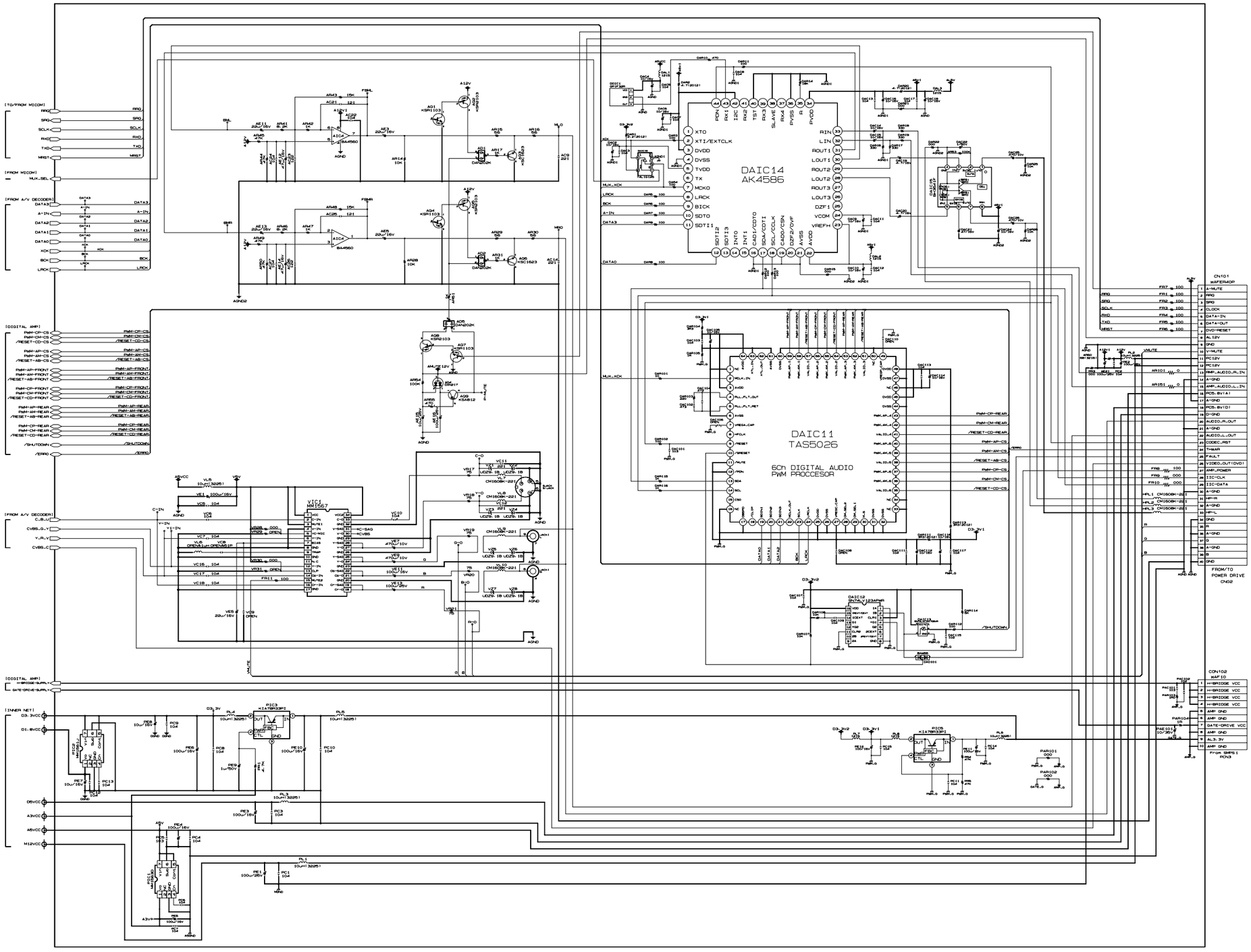
12-18 DVD AV Decoder



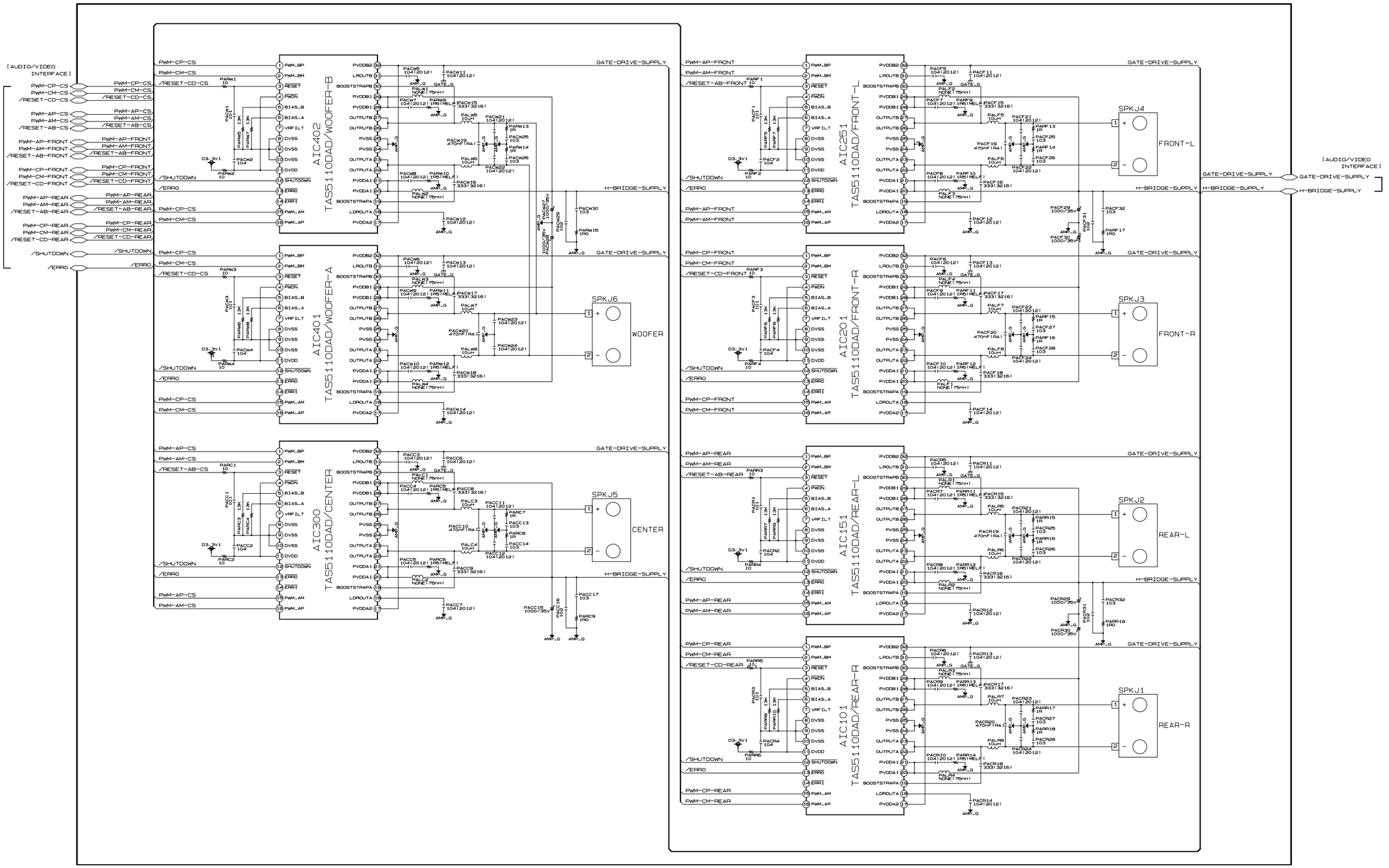
12-19 DVD Servo



12-20 DVD Audio/Video Interface



12-21 Digital Amp



MEMO